

## End of Unit Assessment—Interim

End-of-Unit Assessments are intended to complement the Integrative Transfer Assessments by providing ongoing student and teacher feedback throughout instruction. As assessment is intended to provide educators with tools to inform instruction and intervention, ongoing feedback is an important part of a strong science education system.

Like Integrative Transfer Assessments, End-of-Unit Assessments are designed to prompt students to make sense of a phenomenon. Item clusters are developed from a selection of Performance Expectations aligned with associated curricular units, and assessment is delivered at the end of instruction.

There will be a total of three EoUs per grade (grades 3–10) to align with each curricular unit taught in each grade. The exception is grade 6, which has four units and four EoUs. EoUs are developed and delivered as paper-pencil assessments with ancillary student answer booklets and teacher guides.

The EoU assessments are developed according to the guidelines described for the ITA. Differences between the EoU and the ITA are noted in the following descriptions.

### PE Bundles and Phenomena

Item clusters that make up an EoU are designed to prompt students to make sense of a phenomenon that is closely related to a curricular unit. PE bundles for each item cluster are selected from the set of grade-level PEs included in that curricular unit. The PEs included across the item clusters that make up an EoU will represent the entire set of PEs for the curricular unit.

### Item Types

A variety of item types are available for use on the paper-based EoUs. The item type is deliberately chosen to elicit the evidence most appropriate for the PE and dimensions being assessed by the item. The following list describes the available item types.

- Multiple choice (MC): A prompt and four answer options with one correct choice (1 point)
- Multiple select (MS): A prompt and five to seven answer options with two correct choices (1 point)
- Paper-pencil innovative item (PPI): Technology-enhanced-like item, designed for paper administration; item types include bar graphs, student-drawn models, and tables (1 or 2 points)
- Two-part dependent (TPD): Two-part item where the answer to Part B is an explanation of, or provides evidence to support, the answer to Part A; the student must get Part A correct to get any credit for Part B; partial credit is possible only if Part A is correct; possible combinations of item types in a TPD are: MC/MC, MC/PPI, and PPI/PPI (2 points)

- Two-part independent (TPI): Two-part item where each part is scored independently, and the student may get credit for Part B even if Part A is incorrect; possible combinations of item types in a TPI are: MC/MC, MC/PPI, and PPI/PPI (2 points)
- Constructed response (CR): Open-ended item that typically requires a 1–3 sentence response, for use in item clusters only (2 points)
- Extended response (ER): Open-ended item that typically requires a 5-sentence or longer response, for use in item clusters only (4 points)

## Graphics

Graphics should be purposeful and be included as needed to add clarity, present data, and/or simplify a concept through a visual representation. Graphics may also provide a backdrop for some paper-pencil innovative items. Graphics for the EoU are developed in grayscale.

## Item Cluster Characteristics

All items in the EoU are included as part of an item cluster. As in the ITA, the stimulus provides the context or setting in which the phenomenon is presented to students and supports the use of the intended specific dimensions. Each item is aligned to at least two of the dimensions from the PEs.

Unlike the ITA that includes two types of item clusters, IICs and RICs, each EoU is composed of two to three IICs, as shown in the blueprints in Table 5 and Table 6.

**Table 5. Grades 3–5 EoU Blueprint**

IIC 01	IIC 02	Total Items	Time
4–8 items	4–8 items	12	No more than 45 minutes

**Table 6. Grades 6–High School EoU Blueprint**

IIC 01	IIC 02	IIC 03	Total Items	Time
4–8 items	4–8 items	4–8 items	18	No more than 90 minutes

The composition of the IICs in an EoU varies somewhat from the composition of an IIC in an ITA. The characteristics of IICs in an EoU are described in the list below, and additional details are included in Table 7.

- Each IIC includes multiple stimuli; each stimulus applies to a subset of the items.
- The EoU is aligned to all of the PEs associated with a unit of instruction (5–16 PEs per unit). (Note: Each IIC in an EoU is aligned to a subset of the PEs associated with the unit.)
- Each EoU must include one IIC culminating in an ER item. Other IICs making up an EoU form must culminate with a CR item.
- IICs may include any of the other item types except for TEIs. PPI items will take the place of TEIs.
- Additional dimensions (SEPs and CCCs) are included in items to reflect the way NGSS is taught in classrooms.

**Table 7. Characteristics of IICs for the EoU**

<b>Component</b>	<b>Description</b>
<b>Stimulus</b>	<ul style="list-style-type: none"> <li>• Heavy stimuli with a narrative thread or storyline, presented sequentially with items as the student progresses through the cluster</li> <li>• A mix of text, grayscale graphics, and/or data displays</li> </ul>
<b>Item sequence</b>	Items are connected by a logical thread in the shared stimuli; they are closely linked to each other and have a logical, prescribed sequence, with items progressing in difficulty and complexity.
<b>Item types</b>	<ul style="list-style-type: none"> <li>• Multiple choice (MC), 1 point</li> <li>• Multiple select (MS), 1 point</li> <li>• Two-part dependent (TPD), 2 points</li> <li>• Two-part independent (TPI), 2 points</li> <li>• Paper-pencil innovative (PPI), 1 or 2 points with partial credit possible</li> <li>• One extended response (ER) per EoU, 4 points with partial credit possible</li> <li>• Grades 3–5: One short answer constructed response (CR) per EoU, 2 points with partial credit possible</li> <li>• Grades 6–10: Two short answer constructed responses (CRs) per EoU, 2 points each with partial credit possible</li> </ul>
<b>Items and points to be developed</b>	<ul style="list-style-type: none"> <li>• 6–10 items, with an average of 8 per form</li> <li>• 1–3 two-point items (e.g., TEI and two-part items)</li> <li>• 1 four-point extended response (ER) item per EoU</li> <li>• Grades 3–5: One 2-point constructed response (CR) per EoU</li> <li>• Grades 6–10: Two 2-point constructed response (CR) per EoU</li> </ul>
<b>Operational form</b>	<ul style="list-style-type: none"> <li>• 4–8 items per IIC</li> <li>• Grades 3–5: 12 items total</li> <li>• Grades 6–10: 18 items total</li> </ul>
<b>Alignment</b>	<ul style="list-style-type: none"> <li>• PE bundle of typically 2–8 PEs</li> <li>• May include SEPs and CCCs beyond those associated with the PE</li> </ul>
<b>Student time to complete</b>	<ul style="list-style-type: none"> <li>• 18–28 minutes per IIC, 45 minutes per EoU</li> <li>• 22–35 minutes per IIC, 90 minutes per EoU</li> </ul>
<b>Delivery</b>	Paper
<b>Development approach</b>	<ul style="list-style-type: none"> <li>• Grades 3–5: Develop and field test a full EoU form with 2 IICs</li> <li>• Grades 6–10: Develop and field test a full EoU form with 3 IICs</li> </ul>